

PATENT CLAIMS:

1. Motor vehicle door with
- an outer module which has a door outer shell and forms an outer design surface
 - 5 of the vehicle door, and
 - a unit carrier which is mounted on the side of the outer module facing the interior of the vehicle and is connected to the outer module through forming an interface,
- characterised in that**
- 10 a sealing member (100) extends along the interface (S) between the unit carrier (1) and outer module (2) and covers the interface (S) at least in part.
- 15 2. Motor vehicle door according to claim 1 **characterised in that** in the region of the interface (S) there are fixings (8) for connecting the unit carrier (1) to the door outer module (2) and that at least one part of the fixings (8) is covered by the sealing member (S).
- 20 3. Motor vehicle door according to claim 2 **characterised in that** such fixings (8) which would be visible on the outer contour of the vehicle door in the uncovered state are covered by the sealing member (S).
- 25 4. Motor vehicle door according to claim 2 or 3 **characterised in that** all the visible fixings (8) located in the region of the interface (S) are covered by means of the sealing member (100).
- 30 5. Motor vehicle door according to one of the preceding claims **characterised in that** the sealing member (100) forms a main seal of the vehicle door through which the vehicle door in the closed state bears against the vehicle body.
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6. Motor vehicle door according to one of claims 2 to 4 **characterised in that** the sealing member (100) or a section (105) of the sealing member (100) can be moved so that the fixings (8) are no longer covered and are exposed for actuation by means of a tool.
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7. Motor vehicle door according to claim 6 **characterised in that** the section (105) of the sealing member (100) can be moved by folding it round.
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8. Motor vehicle door according to claim 6 or 7 **characterised in that** the sealing member (100) has a pivotal region (102) about which a section (105) of the sealing member (100) can be folded.
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9. Motor vehicle door according to claim 6 **characterised in that** the sealing member (100) can be moved by sliding displacement.
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10. Motor vehicle door according to one of claims 6 to 9 **characterised in that** the sealing member (100) can be moved into a position in which the fixing elements (8) are exposed for actuation by means of a tool whereby the sealing member is held by the vehicle door.
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11. Motor vehicle door according to claim 6, 7 and 10 **characterised in that** the fixings (8) can be exposed by folding round one section (105) of the sealing member (100) whereby at least a further section (101, 103) of the sealing member (100) remains fixed on the vehicle door.
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12. Motor vehicle door according to claim 10 and 11 **characterised in that** the sealing member (100) can be displaced along a fixing region (15a, 150) of the motor vehicle door so that the fixings (8) are released without having to remove the sealing member (100) completely from the fixing region (15a, 150).
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13. Motor vehicle door according to one of the preceding claims **characterised in that** a fixing region (15a, 150) is provided on the vehicle door to which the seal (100) can be fixed through positive locking connection.
14. Motor vehicle door according to claim 13 **characterised in that** the sealing member (100) can be pushed onto or into the fixing region (15a, 150) in order to form a push-fit connection.
15. Motor vehicle door according to claim 14 **characterised in that** the fixing region (15a) is formed through a fixing flange.
16. Motor vehicle door according to claim 14 **characterised in that** the fixing region (15) is formed through a fixing rail.
17. Motor vehicle door according to one of the preceding claims **characterised in that** the sealing member (100) is clamped with a section (101) between the unit carrier (1) and outer module (2) and preferably forms an anti contact corrosion intermediate layer.
18. Motor vehicle door according to one of the preceding claims **characterised in that** the sealing member (100) is fixed on the motor vehicle door by separate fixings (8), more particularly in the form of a screw connection.
19. Motor vehicle door according to one of the preceding claims, **characterised in that** the sealing member (100) has a metal insert (140) which comprises a fixing section (103) of the sealing member (100).

20. Motor vehicle door according to one of the preceding claims **characterised in that** the sealing member (100) can be prefitted on the unit carrier (1) before the unit carrier (1) and outer module (2) are fitted together.
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21. Motor vehicle door according to claim 20 **characterised in that** the sealing member (100) can be fixed in a pre-assembly position on the unit carrier (1) and once the outer module (2) and unit carrier (1) have been connected together can be moved, more particularly slid from the pre-assembly position into its functioning position.
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22. Motor vehicle door according to claim 20 **characterised in that** the sealing member (100) is prefitted on the unit carrier (1) in its functioning position and in order to connect the outer module (2) to the unit carrier (1) can be moved, more particularly folded round or pushed along so that fixing points are exposed for connecting the outer module (2) to the unit carrier (1).
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- 20 23. Motor vehicle door according to one of claims 15 to 19 **characterised in that** the sealing member (100) is only to be mounted on the vehicle door after the outer module (2) and unit carrier (1) have been connected together.
- 25 24. Motor vehicle door according to one of claims 15 to 23 **characterised in that** positive locking elements (15a) are provided, more particularly moulded on the unit carrier (1), more particularly on the edge area thereof through which the sealing member (100) can be fixed with positive engagement on the unit carrier (1).
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25. Motor vehicle door according to one of the preceding claims **characterised in that** a door inside trim (7), where necessary including edge fascia panels, is mounted on the unit carrier (1).
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26. Motor vehicle door according to claim 25 **characterised in that** the door inside trim covers the unit carrier (1) in the visible area.
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27. Motor vehicle door according to claim 25 or 26 **characterised in that** the sealing member (100) covers the interface between the unit carrier (1) and door inside trim (7).
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28. Motor vehicle door according to claim 27 **characterised in that** the interface is covered by a projection (108) protruding from the sealing member (100).
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29. Motor vehicle door according to one of claims 25 to 27 **characterised in that** the sealing member (100) is fixed on the door inside trim (7).
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30. Motor vehicle door according to one of the preceding claims **characterised in that** at least a part of the electrical or mechanical function elements (3,4,5,6) is mounted on a surface of the unit carrier (1) facing the outer module (2) so that the function elements (3,4,5,6) are mounted between the outer module (2) and the unit carrier (1).
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31. Motor vehicle door according to one of the preceding claims **characterised in that** the outer module (2) has reinforcement areas (21, 22, 23, 24) in the region of its outer edges.
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32. Motor vehicle door according to claim 31 **characterised in that** the reinforcement areas (21 to 24) protrude inwards from the outer module (2).
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33. Motor vehicle door according to claim 31 or 32 **characterised in that** the reinforcement areas (21 to 24) run along the edge of the outer module (2).
- 5 34. Motor vehicle door according to one of claims 31 to 33 **characterised in that** the reinforcement areas (21 to 24) form at least one separate module which is fixed on the door outer shell (20).
- 10 35. Motor vehicle door according to one of the preceding claims **characterised in that** a cross support (25) for strengthening the outer module (2) is provided on the outer module (2).
- 15 36. Motor vehicle door according to one of the preceding claims **characterised in that** a window frame (16) is integrated in the unit carrier (1).
- 20 37. Motor vehicle door according to one of the preceding claims **characterised in that** the outer module (2) and unit carrier (1) have different colours.
38. Motor vehicle door according to one of the preceding claims **characterised in that** the unit carrier (1) extends substantially up to the side edges of the motor vehicle door.
- 25 39. Motor vehicle door according to one of the preceding claims **characterised in that** the unit carrier (1) has reinforcement areas (15) in the region of its outer edges.
- 30 40. Motor vehicle door according to claim 39 **characterised in that** the reinforcement areas (15) are formed at least in part around the periphery of the unit carrier (1) and preferably protrude outwards.
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41. Motor vehicle door according to claim 39 or 40 **characterised in that** the reinforcement area (15) runs substantially U-shaped around the edge of the unit carrier (1).
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42. Motor vehicle door according to one of claims 39 to 41 **characterised in that** the unit carrier (1) is made of metal, more particularly sheet metal, and the reinforcement areas (15) are formed on the unit carrier (1) more particularly by stamping or deep-drawing.
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43. Motor vehicle door according to one of claims 39 to 42 **characterised in that** the unit carrier (1) and the outer module (2) bear against one another through their reinforcement areas (15, 21 to 24).
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44. Motor vehicle door according to one of claims 39 to 43 **characterised in that** fixing points for connecting the outer module (2) to the unit carrier (1) are provided on the reinforcement areas (15, 22 to 24) of the unit carrier (1) and outer module (2).
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45. Motor vehicle door according to one of the preceding claims **characterised in that** the unit carrier (1) and the outer module (2) are fixed against each other along an overlapping area (222, 224, 226, 10, 15, 15a; 242, 244, 15, 15a) which in cross-section is angled at least once.
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46. Motor vehicle door according to one of the preceding claims **characterised in that** a lock module (6) of a door lock is prefitted on the unit carrier (1).
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47. Motor vehicle door according to one of the preceding claims **characterised in that** a lock module (6) of a door lock is fixed on an overlapping area (224; 15; 244, 15) of the outer module (2) and unit carrier (1).
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48. Motor vehicle door according to one of the preceding claims **characterised in that** at least one hinge part (28) of a door hinge is fixed on the motor vehicle door.
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49. Motor vehicle door according to claim 48 **characterised in that** the hinge part is fixed on an overlapping area of the unit carrier (1) and outer module (2).
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50. Motor vehicle door according to claim 48 **characterised in that** the hinge part (28) is fixed to a hinge reinforcement (280) in an overlap area (220, 280) of the outer module (2).
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51. Motor vehicle door according to one of the preceding claims **characterised in that** the unit carrier (1) is turned over at least at a part of the fixing points (15b) used to connect with the outer module (2) so that the material of the unit carrier (1) becomes double-layered at this point.
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52. Motor vehicle door according to claim 51 **characterised in that** the edge of the unit carrier (1) between the double-layered fixing points (15b) is designed to receive the sealing member (100).